

CLAIMS

We claim:

1. A fluid sampler comprising:
a substantially watertight housing, and
a structure contained at least partially within said housing for drawing fluid from outside of said housing into said housing, wherein said structure for drawing fluid is powered by stored potential energy within said housing.
2. The fluid sampler of claim 1, wherein said energy is mechanical energy stored in a compressed spring.
3. The fluid sampler of claim 1, wherein said structure for drawing fluid comprises at least one spring-loaded syringe operably connected to at least one solenoid valve.
4. The fluid sampler of claim 1, wherein said structure for drawing fluid further comprises a filter assembly.
5. The fluid sampler of claim 1, wherein said housing is substantially airtight.
6. The fluid sampler of claim 3, further comprising a control device for issuing electronic activating signals, wherein said activating signals applied to said solenoid valve result in fluid being drawn into said structure for drawing fluid.

7. The fluid sampler of claim 6, wherein said control device is a microprocessor or a microcomputer.

8. The fluid sampler of claim 7, further comprising at least one of an electronic memory and a clock.

9. The fluid sampler of claim 7, further comprising at least one sensor, said sensor communicably connected to said microcomputer or said microprocessor.

10. The fluid sampler of claim 9, wherein said at least one sensor is selected from the group consisting of a pH sensor, a temperature sensor, a dissolved oxygen probe, a conductivity sensor, a salinity sensor and an ion selective electrode.

11. The fluid sampler of claim 9, wherein fluid collection can be initiated by a signal from said sensor.

12. The fluid sampler of claim 9, wherein said sampler includes a memory, said microprocessor or microcomputer processing and storing information from said sensor.

13. The fluid sampler of claim 12, wherein said stored information comprises environmental conditions present at times of fluid sampling.

14. The fluid sampler of claim 7, further comprising at least one antenna, said antenna adapted for receiving a wireless activating signal.

15. The fluid sampler of claim 14, further comprising a receiving device connected to said antenna, said receiving device adapted to receive wireless transmissions from outside of said housing.

16. The fluid sampler of claim 14, further comprising a transceiver for sending wireless signals to at least one location outside of said housing.

17. A fluid sampling system comprising:
a plurality of fluid samplers, said fluid samplers each including a substantially watertight housing, and a structure contained at least partially within said housing for drawing fluid from outside of said housing into said housing, said structure for drawing fluid is powered by stored potential energy within said housing,

wherein at least one of said plurality of fluid samplers is a master sampler, said master sampler including at least one antenna and a transceiver connected to said antenna.

18. The fluid sampling system of claim 17, wherein said master sampler relays instructions to and from other of said plurality of fluid samplers.

19. A method for sampling fluid comprising the steps of:

providing a substantially watertight housing and structure contained at least partially within said housing for drawing fluid from outside of said housing into said housing, said structure for drawing fluid being powered by stored potential energy within said housing; and

drawing said fluid into said housing using said stored potential energy.